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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,181	09/23/2004	Swindell Allen Grimsley	PP/3-22330/A/CGC 2113/PCT	7342
324	7590	02/10/2006	EXAMINER	
CIBA SPECIALTY CHEMICALS CORPORATION PATENT DEPARTMENT 540 WHITE PLAINS RD P O BOX 2005 TARRYTOWN, NY 10591-9005			CORDRAY, DENNIS R	
			ART UNIT	PAPER NUMBER
			1731	
DATE MAILED: 02/10/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/509,181

Applicant(s)

GRIMSLEY ET AL.

Examiner

Dennis Cordray

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/20/2004</u> .  | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-10 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Langley et al (4753710) or Langley et al (4913775).

Langley et al ('710) discloses a process for making paper comprising:

- a).adding to the paper stock a cationic polymer followed by addition of
  - b) anionic bentonite clay microparticles (at least 90% below 100 microns)
- (Abstract; col 10, lines 47-49; col 10, lines 36-40; col 11, lines 3-5).

The papermaking stock can contain recycled or waste pulp (col 8, lines 8-14).

The cationic polymer has a molecular weight of at least 500,000 (col 8, lines 40-41).

The polymer can comprise one or more of cationic monomers of diallyldimethyl ammonium chloride, dialkylaminoalkyl-(meth)acrylates or -(meth)acrylamides or quaternary ammonium salts thereof, polyethyleneimines, or polyamine epichlorohydrin.

The polymer can be copolymerized with acrylamide monomers (col 8, lines 46-64). If monomers other than cationic monomers are used, the cationic monomers are preferably present at greater than 10% (col 9, lines 9-17). The bentonite is defined to include anionic swelling clays such as montmorillinite and Fullers Earth (col 10, lines 47-54). Langley et al teaches that it is common to add inorganic materials such as

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bentonite and alum as well as natural or synthetic polymers to the stock for pitch control (col 1, lines 31-36).

2. Langley et al ('775) discloses a process for making paper comprising:
  - a).adding to the paper stock a cationic polymer followed by addition of
  - b) anionic bentonite clay microparticles (at least 90% below 100 microns)(Abstract; col 10, lines 59-63; col 11, lines 3-5; col 11, lines 27-28).

The papermaking stock can contain recycled or waste pulp (col 8, lines 14-19).

The cationic polymer has a molecular weight of at least 500,000 (col 8, lines 46-47).

The polymer can comprise one or more of cationic monomers of diallyldimethyl ammonium chloride, dialkylaminoalkyl-(meth)acrylates or -(meth)acrylamides or quaternary ammonium salts thereof, polyethyleneimines, or polyamine epichlorohydrin.

The polymer can be copolymerized with acrylamide monomers (col 8, lines 52-67; col 9, lines 1-2). If monomers other than cationic monomers are used, the cationic monomers are preferably present at greater than 10% (col 9, lines 19-26). The bentonite is defined to include anionic swelling clays such as montmorillinite and Fullers Earth (col 11, lines 3-10). Langley et al teaches that it is common to add inorganic materials such as bentonite and alum as well as natural or synthetic polymers to the stock for pitch control (col 1, lines 34-39).

3. Claims 1-8, 10-11 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Humphreys et al (6103065).

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Humphreys et al discloses a process for making paper comprising:

- a).adding to the paper stock a cationic polymer followed by addition of
- b) bentonite clay microparticles or colloidal silica (Abstract; col 4, lines 4-18; col 6, lines 30-31; col 7, lines 34-36).

The papermaking stock can contain recycled or waste pulp (col 6, lines 60-65).

The cationic polymer has a molecular weight from 100,000 to 2,000,000 (col 4, lines 7-10). The polymer can comprise one or more of cationic monomers of polyethyleneimines, diallyldimethyl ammonium halide, or polyvinylamine (col 4, lines 22-30; col 7, lines 5-12). The polymer can be copolymerized with acrylamide monomers (col 4, line 28). The bentonite is defined to include anionic swelling clays such as montmorillinite, hectorite, nontrite and beidillite (col 3, lines 41-45). Instead of the cationic polymer, other cationic inorganic materials can be used as coagulants for contaminants from waste paper (white pitch), such as polyaluminum chloride (col 6, lines 65-67; col 7, lines 1-13). Alum can also be added to the furnish (col 7, line 34). Although alum is added to adjust pH, it can also act as a coagulant.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 4. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Langley et al ('710) or Langley et al ('775).

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Langley et al ('710) or Langley et al ('775) do not disclose paper products made by their processes; however, the abstract teaches a process for making paper and board using cationic polymers and anionic microparticles. It would have been obvious to one of ordinary skill in the art at the time of the invention to make paper using the disclosed process.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Langley et al ('710) or Langley et al ('775) in view of Shimasaki et al (5262570).

Langley et al ('710) and Langley et al ('775) disclose the use of polyethyleneimines (or polyethylene polyamines) as suitable cationic polymers. Langley et al ('710) and Langley et al ('775) do not disclose that the cationic polymer is a polyalkelenepolyamine prepared by the reaction of an alkylene polyamine with a difunctional halide.

Shimasaki et al teaches that ethylenediamine reacts with ethylene dichloride to form diethylenetriamine and other ethyleneamine adducts, which are polyethylene polyamines (col 1, lines 11-21).

The art of Langley et al ('710), Langley et al ('775), Shimasaki et al and the instant invention are analogous as pertaining to the formation of polyalkylene polyamines. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the reaction of an alkylene polyamine with a difunctional halide to form the polyalkylene polyamines for the cationic polymers in the process of Langley et

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al ('710) or Langley et al ('775) in view of Shimasaki et al as a well known process for making polyalkylene polyamines.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [Elliott et al (5501773), Auhorn et al (6083348), Persson et al (6100322), Kuo et al (6273998), Wong Shing et al (6331229), Keiser et al (6361652), Wong Shing et al (6432271), Kasahara (6737128)].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
DRC

  
STEVEN P. GRIFFIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700